

Partly Cloudy

Topic: Atmosphere

Objectives: Estimate how much of the sky is covered in clouds

Grade Level: all

Time: 5 – 10 minutes

Materials: blue and white construction paper, scissors, pencils, glue

Location: Magnolia Hall Courtyard, Active Oval

Vocabulary:
cloud cover
clear
scattered clouds
broken clouds
overcast

Background: Have you heard weather forecasters say there will be scattered clouds or the day will be partly cloudy? When forecasters use these expressions, they are referring to how much of the sky is covered by clouds. In this activity you will learn how to estimate the percentage of cloud cover.

Advance Preparation: Prepare paper cloud cover models or have the students make their own.

Directions for making cloud cover models: The piece of blue paper represents the whole sky. The white paper will be torn to represent clouds. First fold the white paper into four equal parts by folding it in half and then in half again. Decide whether you want to represent $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$ of the sky as covered in clouds. Lightly, write the amount you have chosen on the back of the blue sheet of paper. Cut off the portion of the white paper that represents the amount of cloud cover you have chosen. Tear your portion of the white paper into irregular pieces. These are your “clouds.” Glue the clouds to the blue paper to represent the cloud cover. Try not to overlap the white pieces as you glue.

Procedure:

1. Collect a paper cloud cover model from your teacher or make your own.
2. Without telling any of your classmates the amount of cloud cover represented by your model, hold it up for your classmates to see. Ask them to guess whether the model represents a cloud cover of $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$ of the sky. After they have guessed, tell them the correct answer.
3. After you and your classmates have practiced estimating the cloud cover from the paper models, go to a place in the park where you have a good view of the sky. Look up and estimate the cloud cover in today’s sky.

Questions to think about and discuss:

Forecasters use the following terms to describe the amount of sky covered in clouds:

CLEAR—The sky is cloudless or clouds cover less than one-tenth of the sky.

SCATTERED CLOUDS—Clouds cover one-tenth through one-half of the sky.

BROKEN CLOUDS—More than one-half but less than nine-tenths of the sky is covered in clouds.

OVERCAST—Clouds cover more than nine-tenths of the sky.

PARTLY CLOUDY—Although the National Weather Service does not specify an amount of sky cover for this term, it generally means that clouds are conspicuously present, but they do not completely dull the sky.

1. Sometimes, it is easier to judge the cloud cover by looking at the amount of blue sky you can see, rather than the clouds. How did you estimate the cloud cover? Did you look at the clouds themselves or at the blue behind the clouds? What other techniques did you use to assess the cloud cover?
2. If you were a weather forecaster, how would you describe today's sky? Think about the definitions of clear, overcast, and scattered or broken clouds.
3. Which of the definitions do you think overlap the term partly cloudy? Would you call today's sky "partly cloudy?"